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## Science in the Future

During the past 40 years new applications of science have been changing the physical aspects of human lives with amazing rapidity. The suddenness of the transformation is illustrated daily by the "hardships" people are now suffering because they must temporarily endure a few of the conditions that prevailed everywhere barely a generation ago. The miraculous technological achievements that have become commonplace within a few decades far surpass the most daring flights of imagination of Jules Verne.

The most revolutionary changes, however, are not those that can be expressed in physical terms, but those of the mind and in human relations. It is not for physical luxuries that men and women dare and endure and die, but for high ideals and the passion for liberty. As to relations among men, only now is it being realized how truly all the world is a stage and that all peoples are its actors. But let us leave to some modern Shakespeare the task of expressing this fact in words and turn our attention briefly to the conditions under which science has so far flourished and to a few reflections on its future.

Science was not given ready made to a chosen people on tablets of stone. Instead, during thousands of years it grew from small beginnings among all the principal races and peoples of the earth. It budded and blossomed in China, in India, in Asia Minor, in Egypt, in Europe, in the Americas. It was concerned with many aspects of the universe of which we are a part. The breadth of its origin and the variety of its interests prove the capacity of man to rise eventually above the jungle-ways that imperilled his body and the superstitions that darkened his mind.

For many centuries all scientists were amateurs. That is, they inquired into the ways of the natural world about them because of an inner urge, a divine curiosity, the satisfaction of which was their reward. Naturally their contemporaries often thought them strange characters. Some of them were believed to be masters of magic, while others were regarded as corruptors of youth and as enemies of religion. Some of them were persecuted, while others were maintained as ornaments at various dissolute courts of Europe.

With the establishment of universities and the founding of academies of science in the twelfth to the seventeenth centuries, scientists greatly increased their contacts with one another. The cross fertilization of their ideas led to amazingly rapid progress. In this period such great names as Tycho Brahe, Napier, Francis Bacon, Harvey, Descartes, Boyle, Huyghens, Newton and Leibnitz appeared, to be followed in more rapid succession by Linnaeus, Euler, Buffon, Priestley, Galvani, Scheele, Lamarck, Volta, Cuvier, Humboldt and Ampère. These were the men who won for science a respectable place in the world. Then its pursuit became an honorable profession instead of merely a pastime, and it began to rank high in institutions of learning.

Whether the earth or the sun is the center of the solar system is not a question of great interest in the ordinary affairs of life, but when science began to have applications in practical day-by-day problems it attracted the attention of industry and of government. More than 2,000 industrial scientific laboratories, employing tens of thousands of scientists, have been organized in this country within recent memory, and most of the large scientific bureaus the Government maintains are not much older. That they have contributed greatly to the welfare of our country is certain. That they have provided extraordinary facilities for scientific work is gratefully admitted. That they have not destroyed the spontaneous, amateur enthusiasm of their scientific staffs is praiseworthy.

Scientists, however, should remember that their experience as employees of industries and as

appointees to positions directly or indirectly under political control is still very limited. Up to the present the industries have been highly competitive and scientists have been free to go from one company to another or to university or governmental positions. But if all the productivity of the nation in one field should be concentrated under a single management, either by financial control or governmental decree, its scientists would lose much of their freedom. Or if all the companies in an industry should, like the owners of professional baseball and football clubs, buy and sell their scientists as though they were chattels, then the sun of science would begin to set.

In a sense the success of science is its weakness, so far as the danger from political control is concerned. Scientists have become so numerous that their mere number invites attempts to organize them as another voting and pressure group for political purposes. Moreover, the great importance of science in the affairs of the world provides a plausible excuse for putting it under governmental control for the public good, which is of course a worthy purpose. But the first interest of politics, by and large, is to retain or obtain political office—witness the recent solemn promises by all candidates for a high office to the mothers of America that, if elected, their sons would never be sent, by their orders, across the oceans to fight. However lofty the motives of men in political life may be, the exigencies of practical politics too frequently require compromises with their principles, and the pressures to provide executive positions for supporters of the administration who have been repudiated by their constituents is almost irresistible.

Science was conceived as mutations in the mysterious recesses of the mind. When it was born into an atmosphere of freedom, it flourished and enormously enriched human life. If it were regimented by any power whatever it would degenerate and die. Let it continue to be hobbies of amateurs, rich disciplines for young minds in educational institutions, the means by which foundations promote human welfare, the faithful servant of industry, and an ever-ready powerful force at the call of Government in time of need. And, reciprocally, may scientists always feel a broad and deep responsibility to humanity. While they continue to alleviate the ills of the body, may they progressively displace the darkness of superstitions by the light of the laws of nature. While they deal with matter and energy and protoplasm and mind, may they always feel there is some reality in Wordsworth's words:

Hence in a season of calm weather  
Though inland far we be,  
Our souls have sight of that immortal sea  
Which brought us hither,  
Can in a moment travel thither,  
And see the Children sport upon the shore,  
And hear the mighty waters rolling evermore.

—F.R.M.

### Generous Responses

In the May issue of the *BULLETIN* a request was made by the Association for donations of back numbers of *The Scientific Monthly* to fill an unexpectedly large number of new subscriptions that were to be dated from the beginning of the year. The response has been very generous and is greatly appreciated, especially because copies of the *Monthly* are being sent to the 213 technical libraries of the United States aviation training centers.

Although the response has been generous, about 200 additional copies of the January and March numbers and about 100 copies of the February and April numbers of the *Monthly* are still needed. No earlier issues are desired and a sufficient number of copies of the May issue have been received to meet prospective requirements. As offers of the required issues of the *Monthly* are received, the Association sends envelopes with sufficient postage for mailing the donated copies.

The fact that the Office of the Permanent Secretary has been put to considerable trouble and expense, because it underestimated the number of new subscriptions that would be received for *The Scientific Monthly* during April and May, would be more disturbing than it is if the incident had not proved that a spirit of cooperation and generosity exists among scientists to a remarkable degree. These precious qualities will be greatly needed in restoring mutual respect and confidence among the peoples of the world after the close of the war. The future does not now seem quite so hazardous as it did before it was necessary to call on the members of the Association for donations of back numbers of *The Scientific Monthly*.

### Resolution on Interrelations Among Scientists of the Western Hemisphere

In the light of suggestions and criticisms of the resolution on The Interrelations Among Scientists of the Western Hemisphere, the Committee has revised its first draft, which appeared in the April issue of the *BULLETIN*, to the wording that appears below. Of 223 members of the Council, 179 voted on the resolution, 154 without qualifi-

cations and 25 with qualifications ranging from minor matters of wording to objections to certain phrases and sentences. All these remarks were sent to the Committee for their consideration.

#### *The Resolution*

The American Association for the Advancement of Science, an organization having 25,000 members and including broadly both the natural and the social sciences, sends cordial greetings to scientists throughout the Western Hemisphere. Because of the unity of purpose among scientific workers they constitute a great fraternity. Because the members of the fraternity are widely dispersed they can help to establish deeper understanding and mutual confidence among the peoples they represent.

In devotion to the search for knowledge and wisdom scientists are not separated from one another by national boundaries. What they seek may be discovered in any land; their findings are placed in the service of all. The nations of the New World, relatively young in scientific activities, have in the past looked to Europe for inspiration and for technical discipline in productive scholarship. Since the European peoples, engaged in a devastating war or suffering subjugation are tragically estranged, resort to them is not possible. The time is opportune for scientists in the American nations to take upon themselves an obligation implied in what they have received in the past. Insofar as the war effort in the various countries of the Americas will permit, the task of realizing the deep significance of scientific research for human welfare should be assumed. Leadership in scholarly endeavor is now imposed on the younger countries of the West. By intellectual intercourse they can exemplify the interdependence of scientific workers, and later, at a happier time, they can help to reestablish universally the cooperative activities which are characteristic of the scientific spirit. These are projects reasonable to undertake. The friendly relations among American countries are conducive to mutual reliance and esteem. In these favorable circumstances men of science in the Western Hemisphere should not find it difficult to keep aflame the lamp of learning while it flickers or dims out elsewhere.

The implications of the scientific spirit for the advantage of all peoples are becoming increasingly evident. Even the moral consequences of scientific understanding are being recognized and appreciated. Objectively demonstrable knowledge about ourselves and our environment is the solid foundation for faith in a brighter future. Fully justified now is the confidence that science can contribute mightily to the satisfaction of common human desires—freedom from want, freedom from fear, freedom from toilsome drudgery and freedom from oppression. In such freedom science thrives and thus can continue its benefactions.

The American Association for the Advancement of Science expresses the hope, therefore, that more and more in the nations of the Western Hemisphere the solidarity of scientific investigators will be recognized

and that cooperative undertakings will be promoted—in exchange of publications, in an increased academic reciprocity among students and teachers, and, when possible, in the conduct of research. There are incalculable benefits, both intellectual and material, which will surely accrue to the nations of the West from the progress of scientific knowledge, from its application to the abundant resources of those nations, and from strengthening the bonds of fellowship and sympathetic appreciation among their scientific workers. In the end there will be enrichment for all nations. For these purposes the Association cordially offers and invites generous collaboration.—WALTER B. CANNON and CHAUNCEY D. LEAKE, Committee.

#### **Geologists and Entomologists**

The Geological Society of America and the Entomological Society of America are two of the 35 societies that have been affiliated with the Association since affiliated societies were authorized in 1920. A brief history of the American Association of Economic Entomologists, which has also been affiliated with the Association since 1920, will appear in a later issue of the BULLETIN.

#### *The Geological Society of America*

The Geological Society of America was organized in 1888 for "the promotion of the science of geology in North America." It is thus a scientific rather than a professional society. At present there are 826 members, including 799 Fellows and 27 Correspondents. Fellows are persons who are engaged in geological work or in teaching geology. They may be nominated at any time by two Fellows for approval by the Council and election by the Fellows. Initiation fees and annual dues are both \$10. Correspondents are persons distinguished for their attainments in geological science and not resident in North America. They pay no fees, are not entitled to vote, and are not eligible for election as officers or councilors.

In 1929 the Society was incorporated under the Membership Corporation Law of the State of New York. The property and affairs are managed by the Council comprising seven officers and 10 councilors. Officers are elected for one-year terms; three councilors are elected each year for three-year terms. The immediate past president serves one year as councilor.

The annual meeting of the Society, usually covering three days, is held during Christmas week at a place fixed by the Council usually on the basis of an invitation from a group of local Fellows. The 1942 meeting, including scientific sessions, scheduled for Ottawa, Canada, was cancelled because of war conditions and reduced to the necessary business of the Corporation at the headquarters of the Society. Future meetings will be similarly restricted until conditions justify expansion.

The Bylaws of the Society allow for the organization of sections representing particular branches of geology or definite regions. The Cordilleran Section was organized in 1900 to serve Fellows residing west



of the 105th Meridian. The Section elects its officers at an annual meeting in April.

In 1932 the Society received a generous bequest under the will of the late Richard A. F. Penrose, Jr., the income from which made possible an enlarged publication program and a system of grants in aid of research. In 1927 Dr. Penrose endowed a gold medal to be awarded "in recognition of outstanding original contributions or achievements which mark a decided advance in the science of geology, and only at such time or times as the Council may decide." Nominees for the medal are selected by the Council regardless of nationality or membership in the Society.

Applications for grants-in-aid of research in geology are filed with the Secretary and referred to the Committee on Projects for study and recommendation to the Council for action. During the past 10 years the 401 grants awarded have totaled in excess of \$400,000. Grants are made regardless of membership in the Society.

The BULLETIN, now in its 54th annual volume, was for many years the sole publication of the Society. It carried both the proceedings material and scientific papers in four quarterly issues aggregating about 1,000 pages. In 1934 it was expanded to a bimonthly of 1,500 pages, and in 1935 to a monthly aggregating 2,000 pages. The proceedings matter is now issued as an annual *Proceedings Volume*. A *Bibliography and Index of Geology Exclusive of North America* was established with a staff of three bibliographers under the direction of J. M. Nickles. The eight annual volumes issued to date supplement the *Bibliography of North American Geology* by the United States Geological Survey in giving world-wide coverage. Because of the reduction in foreign literature as a result of the war the *Bibliography* is now issued in biennial volumes. In 1934 a series of *Memoirs* was established and eight volumes have been issued. A series of *Special Papers* established in 1935 now includes 45 volumes.

The pages of the Society's publications are open to authors regardless of membership. Manuscripts are welcomed by the Secretary who also serves as editor. All publications are distributed free to members of the Society and are available to others at cost price.

The Society has established 146 depositories in many countries to which all publications are sent free. The list, summarized by continents, is as follows: North America, 33; South America, 14; Europe, 71; Africa, 7; Asia, 13; Australia (New Zealand), 8.

The society has set no limits upon the scope of its interests within the field of geologic science. Within its membership, at its annual meetings, in its support of research, and in its publications, all specializations, including borderline fields, are represented. This is illustrated by a special memorial volume issued by the Society in 1938 following its 50th anniversary, which records the progress through 50 years in 21 subdivisions of geologic science.

With more specialized national organizations serving in the field of geology, the Society has established

cooperative relations. Thus the Paleontological Society, the Mineralogical Society of America and the Society of Economic Geologists schedule their annual meetings with the Geological Society. These three societies and the Seismological Society of America maintain publications, the cost of which is shared by the Geological Society. In 1932 the Society underwrote the 16th International Geological Congress to the extent of \$100,000. In 1939 the American Geophysical Union was assisted financially in staging the 7th Triennial Assembly of the International Union of Geodesy and Geophysics.

The Society cooperates with the American Association for the Advancement of Science, Section E (Geology and Geography), in organizing its program and by printing abstracts of its papers. The Society also cooperates with the National Research Council, Division of Geology and Geography, and its committees. Many papers and reports of the committees of the Council have been printed by the Society. During the past year the Society published and distributed a *Bibliography of Military Geology and Geography* prepared under the direction of the Chairman of the Division.

At the present time the Society is printing the first Glacial Map of North America which was prepared under the direction of a committee of the National Research Council, including members of the Geological Survey of Canada. In cooperation with the geological surveys of the United States, Canada and Mexico the Society has revised and is reprinting the Geological Map of North America.

At the annual meeting in December, 1941, the Council appointed a committee on War Effort and the Society unanimously adopted a resolution pledging its best efforts collectively and individually, giving special consideration to research projects which will effectively contribute to victory, and instructing the Committee on War Effort to present the resolution to the proper authorities and to offer all possible aid of the Society and its membership to the Government. In the service of geologists, the Society has printed and distributed a number of brochures which present the uses of geology and geologists in war time by the essential mineral industry and by the armies of the United States, England, France and Germany. The Society has also cooperated fully with the National Roster of Scientific and Specialized Personnel of the War Manpower Commission, particularly in the registration of geologists who are not members of national societies. Probably 25 per cent of the Fellows of the Society are wholly engaged either with the armed forces or with the vital mineral industry.—H. R. ALDRICH, Secretary.

#### *The Entomological Society of America*

The Entomological Society of America was organized in 1906 in response to an evident need for an organization of international character which would welcome to its ranks all persons interested in the study of insects. The Society started with approximately

400 members and its membership has gradually grown through the years until at present it is 950. Prof. J. H. Comstock of Cornell University, first president, presided at the first regular annual meeting in New York in 1906. At the second meeting, held in Boston in 1907 at the time of the International Congress of Zoologists, it was decided to hold annual meetings in connection with the annual meetings of the American Association for the Advancement of Science.

In order to provide a bond among the members of the Society which were widely scattered throughout the United States and other countries, the *Annals* of the Entomological Society of America was established in 1908 and is now in its 36th volume. It is a quarterly publication which serves as a means of publication for the memoirs prepared by the members and fellows of the Society. On the average about 60 original papers, comprising about 800 pages and illustrated by about 60 plates in addition to text figures, have been published annually.

In 1915 the Society established a permanent committee, known as the Thomas Say Foundation, to furnish a means of publication of larger works on American systematic entomology of a monographic or bibliographic character. Under this Foundation the first volume on "Sarcophaga and Allies in North America," by J. M. Aldrich, appeared in 1916. Volume Two, "Plecoptera or Stone Flies of North America," by Needham and Claassen, was published in 1925; and Volume Three, "Plecoptera Nymphs of North America," by Claassen, in 1931. The manuscript for a fourth volume has been accepted for publication and will be published as promptly as possible.

The objects of the Society are, to give the study of entomology that standing which its importance in relation to all forms of human activity warrant and demand; to spread knowledge regarding insects; to bring the amateurs and official entomologists in touch with each other and with a central organ; to consider questions dealing with the educational side of entomology, museum methods and nomenclature; and also to encourage the formation of local societies, particularly in places where entomology is not being cultivated.

The membership of the Society consists of members, life members, fellows and honorary fellows. All persons interested in the study of insects are eligible for membership. The annual dues of the Society are \$4. To each member and fellow whose dues are paid the *Annals* of the Society are sent without additional charge.

The annual meetings of the Society are held in December, usually in affiliation with the American Association for the Advancement of Science. The program at the annual meeting consists of reports by members of the results of original investigations, the report of the proceedings of the Executive Committee for the year and the transaction of business by the members. The Society does not have an address by the president at its annual meeting, but instead there is given on one evening of convention

week a public address on a subject of interest to entomologists and the general public by some person selected and invited by the Executive Committee.

The Society cancelled its 1942 annual meeting at the request of the Office of Defense Transportation, as was done by many other scientific societies. No definite arrangement has yet been made for holding meetings during the war period, but it is hoped that it will be possible to hold a 1943 annual meeting sometime during the latter part of this year. At the present time the Secretary of the Society has a record of 104 members of the Society who are in various branches of the armed services. Many of these are actively engaged in malaria and mosquito control. The Entomological Society of America, together with the American Association of Economic Entomologists, has set up two joint committees in connection with entomology and the war. One of these is essentially a committee on military entomology, whose work consists in facilitating the procurement of entomological manpower for the needs of the Army and the Navy. The second committee is known as the Committee on Coordination of Entomology with the War Effort and concerns itself with all phases of entomology in civilian life which can serve any needs in prosecuting the war.—CLARENCE E. MICKEL, Secretary-Treasurer.

#### Interrelations Among Scientists of the Western Hemisphere

In response to the invitation to comment on the resolution on interrelations among scientists of the Western Hemisphere published in the A.A.A.S. BULLETIN (Vol. 2, No. 4, 1943), I should like to express my complete approval and to cite, by way of illustrating the timeliness of this resolution, certain results already achieved in inter-American cooperation. These results will, perhaps, suggest further possibilities.

Three years ago, the Smithsonian Institution undertook the preparation of a Handbook of South American Indians, one of the Department of State's projects for Cooperation with the American Republics. The enthusiastic collaboration of the 100 scholars who are contributing to this project led to the belief that there was need for a permanent inter-American association of scientists in the fields of anthropology and geography, a need comparable to that met by existing national scientific societies but international in scope. This idea was explored with scientists in the American republics and found to have such whole hearted approval that the Smithsonian Institution, and subsequently the Office of the Coordinator of Inter-American Affairs, lent their sponsorship and support to assist its preliminary development.

At the present time, scarcely a year after it was conceived, the Inter-American Society of Anthropology and Geography has come into existence and the first issue of its quarterly journal is in press. Response to this society has surpassed all expectations. Memberships, which include both individuals and affiliate societies and cost \$3 per year, now number 530, with new members joining daily. In the near future the Society will be self-supporting and will be controlled democratically by its membership. There is every hope that it will be a powerful implement for furthering scientific collaboration on the anthropological and cultural problems of inter-American importance. To this end, its journal will carry original articles, abstracts, notes, news, and comments, published in English, Spanish, Portuguese, and French. In the future, it is hoped that international meetings can be arranged.—JULIAN H. STEWARD.

#### Booklet for Latin American Biologists

The Union of American Biological Societies has established a Committee on Latin American Relations under the chairmanship of Prof. E. G. Butler, of Princeton University, president of the society. As its first concrete activity, the Committee is preparing a booklet on graduate instruction and research in the biological sciences in the United States. This booklet will be published in both Spanish and Portuguese, as well as in English, and distributed to all active biologists in the Latin American republics.

In both North America and South America cultural, as well as commercial, relations in the past have been largely with Europe rather than with one another. A consequence has been that educators and scientists of North America have not had an adequate knowledge of the old and distinguished educational institutions that have been established in South America and of the scientific work that has been in progress; and, reciprocally, the educators and scientists of Latin American republics have not had available sufficient information respecting the opportunities for study in the United States. It is intended that the booklet now under preparation will remedy this condition in the fields of the biological sciences.

The booklet is being prepared primarily for the use of Latin American students and professors who may contemplate coming to the United States for biological work. It will present a survey of advanced biological work in graduate and professional schools, requirements

for admission to graduate work and for advanced degrees, opportunities for scholarship and fellowship aid and how to make applications for them, the relations of biological field stations and agricultural experiment stations to advanced study, and the role of biological societies and publications in research. In the printing and distribution of the booklet aid is being received from the Coordinator of Inter-American Affairs, the Pan American Union and the Institute of International Education.—E. G. BUTLER.

#### Status of Membership

In spite of the disruptions due to the war, the membership of the Association now is almost exactly 1,000 greater than it was a year ago. On May 31 the figures for 1943 and 1942, respectively, were 24,767 and 23,771. Only twice since 1930 (1938 and 1942) has there been so great an increase in its membership in one year.

As is always the case, some members of the Association are in arrears in their dues for various reasons, the principal one in normal times being carelessness. It would naturally be expected that now, because of the war, high taxes and increased cost of living, the number of members in arrears on their dues would be exceptionally great. But the opposite is the case. Although the membership of the Association has increased by almost 1,000 in the past year, the number of members in arrears has remained exactly the same, 2,205. Of these arrearages, 1,378 are for the current year and 827 are for more than one year. The percentage of the total membership whose dues for the current year have been paid in full is 91.1; a year ago it was 90.7.

The facts that have been stated in words are presented more briefly and completely in the following table:

	1943		1942	
	No.	%	No.	%
Paid-up members <sup>1</sup> .....	22,562	91.09	21,566	90.72
Members in arrears for current year .....	1,378	5.57	1,436	6.04
Members in arrears for more than two years ..	827	3.34	769	3.24
	24,767	100.00	23,771	100.00

<sup>1</sup> Includes new members enrolled in 1943 and 1942, 2,571 and 3,194, respectively.

#### Members of Longest Continuous Membership

With only four exceptions, all living members whose membership election antedates 1898 are



now in the life-membership category. Their election to this status has been by personal payment of the life-membership fee, by election by the Council as emeritus life members from income from the Jane M. Smith fund, or by the special rule that provides that all members who have paid annual dues for 50 years shall be transferred to life membership as a special class of members. The annual dues of those that come under this special rule are paid by the Office of the Treasurer from income available for general purposes.

On the rolls of the three classes above mentioned, on March 31, 1943, there were 109 persons who had joined the Association between 1873 and 1897, inclusive. Of this number, 20 had paid the life-membership fee, 68 were elected to emeritus life membership, and 21 had been transferred to life membership by the special rule.

Acknowledgment of the support of members of long standing in the work of the Association is neglected too frequently, but they can at least be honored by publishing their names. Because of space limitations, only those who were enrolled up to and including 1890 are presented at this time. The letters preceding the numerals indicate year of election to the several classes of membership: M, member; F, fellow; L, life member; E, emeritus life member; V, 50-year member.

Robert H. Richards, Jamaica Plain, Mass. M73, F75, E18.

John Harvey Kellogg, Battle Creek, Mich. M75, E31, F32.

Alfred Springer, Cincinnati, Ohio. M75, F80, E28.

Edward Bausch, Rochester, N. Y. M77, F83, E31.

Herman L. Fairchild, Rochester, N. Y. M78, F83, E30.

William Fellowes Morgan, New York, N. Y. M78, F32, E33.

Simon Henry Gage, Ithaca, N. Y. M79, F81, E31.

Arthur Whitecomb Sheaffer, Pottsville, Pa. L79.

Edward Goldsmith, Richmond, Va. M80, F92, L12.

Charles M. Knight, Akron, Ohio. M80, F04, E34.

John George Jack, East Walpole, Mass. M82, F90, V37.

John A. Miller, Wallingford, Pa. M82, F06, V37.

Herbert Osborn, Columbus, Ohio. M83, F84, V37.

Ernest Merritt, Ithaca, N. Y. M84, F90, V37.

Dudley L. Page, Lowell, Mass. M84, L95.

Douglas H. Campbell, Stanford University, Calif. M85, F88, V37.

Edwin L. Moseley, Bowling Green, Ohio. M85, F02, V37.

Joseph Jastrow, New York, N. Y. M86, F87, V37.

John T. McGill, Nashville, Tenn. M86, F88, V37.

William F. Magie, Princeton, N. J. M86, F87, V37.

Mrs. Winifred Edgerton Merrill, Bridgeport, Conn. M86, L98.

Robert O. Moody, Berkeley, Calif. M86, F92, V37.

Carlos F. de Landero, M87, L91.

Mrs. R. Hoe, Jr., Poughkeepsie, N. Y. L87.

James Lewis Howe, Lexington, Va. M87, F88, V37.

David Schenk Jacobus, Montclair, N. J. M87, F89, V37.

Frederick G. Novy, Ann Arbor, Mich. M87, F89, V37.

Harry Jacob Patterson, College Park, Md. M87, F90, V37.

Harry F. Reid, Baltimore, Md. M87, F93, V37.

R. C. Ballard Thruston, Louisville, Ky. M87, F96, V37.

Bailey Willis, Stanford University, Calif. M87, F90, V37.

Charles W. Comstock, Jackson Heights, L. I., N. Y. M88, F01, V38.

Nelson H. Darton, Washington, D. C. M88, F93, V38.

Robert Tracy Jackson, Peterborough, N. H. M88, F90, V38.

William F. Durand, Stanford University, Calif. M88, F90, L31.

L. O. Howard, Washington, D. C. M88, F89, L07.

Frank Leverett, Ann Arbor, Mich. M88, F91, E37.

Mrs. Mary Schaffer Warren, Banff, Alta, Canada. L89.

Clarence Moores Weed, Plymouth, N. H. M89, F90, V39.

James G. Biddle Wallingford, Pa. M90, E39.

Henry L. Bolley, Fargo, N. Dak. M90, F92, E39.

Alfred Hume, University, Miss. M90, F09, E39.

William Trelease, Urbana, Ill. M90, F91, L08.

### Publication of Symposium on Entomology

Symposium Volume No. 20 on *Laboratory Procedures in Studies of the Chemical Control of Insects* is about ready for distribution.

Like other symposia of the Association, this volume presents a systematic, comprehensive, authoritative, and thoroughly documented discussion of an important field of science. The subject treated has many theoretical and practical aspects of great interest. Even the rearing of insects of various general kinds, such as those that attack plants, those that attack stored products, and those affecting man and animals, raises such an extraordinary number of questions that it is not a simple matter to reduce the principles and practices that are successful to comprehensible order, yet this has been accomplished. To systematize the methods of testing insecticides in the laboratory presents similar difficulties because of the many kinds of insects to be considered, the various kinds of poisons to be tested, and the several methods of their application. Finally, the important problem remains of statistical analyses of the results obtained from experiments, which is comprehensively treated in the closing chapter.

On reference to the Table of Contents it will be seen that the general plan has been to treat each general subject in a comprehensive paper and to supplement it by several shorter contributions on specific related subjects. By this means redundancies can be eliminated and the exposition clarified. As completed, the volume consists of an introduction, twelve principal scientific papers and forty-one supplementary contributions. The references cited, about 500 in number, are placed together in a bibliography, and the book closes with two alphabetized indexes, one based on the scientific names of all the species of insects mentioned and the other upon their common names.

Such a volume as this is the final product of a well-conceived plan, the contributions of many experts, the critical judgment of a publication committee, painstaking editorial work, and an organization able to bear the initial expense and take the necessary financial risks. Dr. Walter C. O'Kane initiated the program on which the book is based, its presentation was sponsored by the American Association of Economic Entomologists and the American Association for the Advancement of Science. Dr. Frank L. Campbell critically read and revised nearly all the manuscripts, checked the references and prepared the indexes, and the Office of the Permanent Secretary of the American Association for the Advancement of Science carried the usual editorial responsibilities relating to manuscripts and proofs. Finally, the Association contributes to the advancement of science by bearing all the overhead expense of the publication of this volume and by making it permanently available to entomologists at the cost of manufacture and distribution.—From the Foreword of the Association's symposium on *Laboratory Procedures in Studies of the Chemical Control of Insects*. viii + 206 pages, quarto double column, 63 illustrations, 15 tables, about 500 references to literature, 224 species indexed by both scientific and common names. To members, \$3.00 to August 1; after August 1, \$3.50. To others \$3.50 to August 1; after August 1, \$4.00.

#### Notice of Change of Address

The Post Office Department requests that in the future mail for the Association be addressed as follows:

The American Association for the Advancement of Science,  
Smithsonian Institution Building,  
Washington 25, D. C.

The difference between this address and that which has been heretofore used is the addition of the zone number, 25, to the city address, Washington. Evidently this addition will expedite the distribution of incoming mail, as has long been the case in European cities. It is hoped that correspondents of the Association will comply with the request.

#### Officers of the Association

*President*, Isaiah Bowman; *Permanent Secretary*, Forest R. Moulton; *General Secretary*, Otis W. Caldwell; *Treasurer*, C. Carroll Morgan; *Assistant Secretary*, Sam Woodley.

*Executive Committee*: Burton E. Livingston, *Chairman*; Roger Adams, Joseph W. Barker, Isaiah Bowman, Otis W. Caldwell, Walter B. Cannon, J. McKeen Cattell, Roy E. Clausen, Kirtley F. Mather, F. R. Moulton, and W. E. Wrather.

#### Membership in the Association

According to the Constitution, the objects of the Association are to promote intercourse among those who are cultivating science in different parts of America, to cooperate with other scientific societies and institutions, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness. Members may reside in any country. A person desiring to become a member of the Association should fill in a membership application card that may be obtained from the Office of the Permanent Secretary and return it with his payment of \$5.00 for one year's dues. Every member in good standing receives with his membership a subscription for either *Science* or *The Scientific Monthly*. Dues are for the fiscal year that begins October 1; the subscription begins the following calendar year. A member desiring to receive both journals concurrently may do so by paying \$3.00 in addition to the regular dues. Members in good standing receive also, without extra charge, subscriptions for the A.A.A.S. BULLETIN, and they may purchase symposia publications at prepublication prices, and after publication at special prices to members.

A person who pays \$100 during one fiscal year may be elected a life member; sustaining members pay \$1,000. Both classes are exempt from the payment of further dues but are entitled to all the privileges of membership.

An incorporated scientific society or institution or a public or incorporated library may become a member by paying the entrance fee of \$5.00 in addition to the dues. Such institution members are entitled to the same privileges as individual members.

Members are encouraged to nominate for membership persons who desire to cooperate in carrying out the objects of the Association. Names may be sent to the Office of the Permanent Secretary at any time. In the letter of invitation to become a member of the Association the name of the person making the nomination is ordinarily mentioned.

#### Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly*, as well as the A.A.A.S. BULLETIN, should be in the Office of the Permanent Secretary, Washington 25, D. C., at least two weeks in advance of the date when the change is to become effective.



